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**UserID: RShukla\_Job\_1\_of\_1**

**Printer: cm1\_12e14\_gbleptr**

## **Summary**

<b>Document</b>	<b>Pages</b>	<b>Printed</b>	<b>Missed</b>
<b>US20010012514</b>	<b>19</b>	<b>19</b>	<b>0</b>
<b>Total (1)</b>	<b>19</b>	<b>19</b>	<b>0</b>

L Number	Hits	Search Text	DB	Time stamp
1	1842	beta-interferon or beta ADJ interferon	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:38
7	857	muliple ADJ sclerosis or experimental ADJ allergic ADJ encephalomyelitis	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:25
13	4	(beta-interferon or beta ADJ interferon) same (muliple ADJ sclerosis or experimental ADJ allergic ADJ encephalomyelitis)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:25
25	18700	gene ADJ therapy	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:31
31	0	((beta-interferon or beta ADJ interferon).clm.) same (gene ADJ therapy)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:31
37	30	((beta-interferon or beta ADJ interferon).clm.) and (gene ADJ therapy)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:31
43	0	(beta-interferon or beta ADJ interferon) SAME (gene ADJ therpay).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:39
19	166	(beta-interferon or beta ADJ interferon).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:43
49	9806	braun\$.in	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:44
55	1	((beta-interferon or beta ADJ interferon).clm.) and braun\$.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/08/05 15:44

(FILE 'HOME' ENTERED AT 15:07:40 ON 05 AUG 2002)

FILE 'MEDLINE' ENTERED AT 15:07:49 ON 05 AUG 2002

L1 4083 S INTERFERON BETA OR BETA INTERFERON  
L2 4083 S INTERFERON-BETA OR BETA-INTERFERON  
L3 6 S BETA-INTERFERON-1A  
L4 75180 S MS OR MULTIPLE SCLEROSIS  
L5 630 S L2 (S) L4  
L6 184 S L2 (S) L4 (S) THERAPY  
L7 102 S L6 NOT PY>1999  
L8 556 S (BRAUN S?)/AU  
L9 0 S L6 AND L8  
L10 184 S L6 AND L2  
L11 184 S L6 AND L2 AND L4  
L12 0 S L8 AND L2 AND L4  
L13 0 S L8 AND L2  
L14 1 S L6 AND GENE THERAPY

FILE 'MEDLINE, USPATFULL, PCTFULL, CAPLUS' ENTERED AT 15:15:52 ON 05 AUG 2002

L15 16 S L14  
L16 16 DUP REM L15 (0 DUPLICATES REMOVED)

=> logoff hold

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:911120 CAPLUS

DOCUMENT NUMBER: 134:55498

TITLE: Compositions and methods for the treatment or prevention of autoimmune disorders using **DNA vaccine** encoding a self-antigen

INVENTOR(S): Von Herrath, Matthias G.

PATENT ASSIGNEE(S): The Scripps Research Institute, USA

SOURCE: PCT Int. Appl., 55 pp.

CODEN: FIMXDE

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000078360	A1	20001228	WO 2000-US16218	20000613
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, ME, MK, MN, MW, MX, NZ, NO, NZ, PL, PT, RD, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TG, TM				
FW: GH, GM, KE, LS, MW, MZ, SD, SL, SS, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 1999-336672 A 19990617

AB The present invention provides comps. and methods for the prevention or treatment of autoimmune disorders using **DNA vaccine** encoding a self-antigen. In particular, the invention methods utilize plasmid vector encoding at least a portion of an autoreactive epitope that, upon administration to a subject, acts to modulate the immune system thereby ameliorating conditions assocd. with an autoreactive antigen. The comps. and methods of the invention include co-administration of another vector encoding a biol. response modifier (e.g., a cytokine, chemokine, interferon, interleukin) for the effective induction of regulatory cytokines to down-regulate the immune system of a mammal having an autoimmune condition. The invention is exemplified by the treatment or prevention of insulin dependent diabetes in a murine model using RIP-LOMV-NP: transgenic mouse line that expresses lymphocytic choriomeningitis virus nucleoprotein under control of the rat insulin promoter. The exemplary autoreactive epitope used is from insulin .beta. chain. RIP-NP transgenic mice are treated with pCMV-NP with pCMV-ins-B and LCMV-specific CTL responses are evaluated. The studies compare the progression of diabetes in immunized and non-immunized mice and show that the transfer of splenocytes from insulin-B protected mice prevents IDDM and the self-reactive (LCMV-NP) CTL activity in pCMV-B protected mice is reduced.

REFERENCE COUNT: 3

REFERENCE(S): (1) Nicolette, C; WO 1020467 A 1990 CAPLUS  
(2) Univ Southern California; WO 9745144 A 1997 CAPLUS  
(3) Von Herrath, M; JOURNAL OF IMMUNOLOGY 1998, 161(3), 15067 CAPLUS

L4 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2002 BIOSIS

ACCESSION NUMBER: 2000:995802 BIOSIS

DOCUMENT NUMBER: PREV21000395802

TITLE: A plasmid construct encoding murine **interferon beta** antagonizes the replication of herpes simplex virus type 1 in vitro and in vivo.

AUTHOR(S): Cui, Bo; Carr, Daniel J. J. et al

CORPORATE SOURCE: 1 Department of Ophthalmology, Jean McGee Eye Institute,  
University of Oklahoma Health Sciences Center, 605 Stanton  
L. Young Boulevard, Rm 415, Oklahoma City, OK, 73104 USA  
SOURCE: Journal of Neuroimmunology, August 1, 2000 Vol. 108, No.  
1-2, pp. 97-102. print.  
ISSN: 0165-5728.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB In the present study, we employed a plasmid DNA encoding murine interferon  
IFN-beta to assess its antiviral efficacy in an in vitro  
transfection-infection assay and in an ocular HSV-1 infection model of  
mice. In the in vitro assay, transfection of mouse fibroblasts with the  
IFN-beta transgene resulted in a 17-fold or greater reduction in the viral  
load of HSV-1 at a multiplicity of infection (MOI) of 1 compared to that  
of those mice treated with the plasmid control. RT-PCR analysis of  
representative immediate early (ICP27), early (thymidine kinase, TK) and  
late (VP16) viral genes found no changes in the level of expression  
comparing the IFN-beta transgene- to the vector-treated control group,  
suggesting that the IFN-beta transgene may act at the post-transcriptional  
level of viral replication. In the ocular HSV-1 infection model, topical  
application of the plasmid DNA encoding murine IFN-beta onto mouse cornea  
enhanced cumulative survival and significantly reduced the viral load of  
HSV-1 in the eyes and trigeminal ganglia of mice at both day 3 and 6  
post-infection compared with mice treated with the plasmid vector control  
or normal saline. Neutralizing antibody to IFN-beta blocked the protective  
effect elicited by the IFN-beta transgene. Unlike the in vitro experiment,  
viral gene expression was reduced in the trigeminal ganglion of mice  
pre-treated 24 h with the IFN-beta transgene day 3 (ICP27 and VP16) and  
day 6 (ICP27, TK, DNA polymerase, and VP16) post-infection in comparison  
to mice treated with the plasmid vector control as determined by  
semi-quantitative RT-PCR.

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6 ANSWER 8 OF 38 BIOSIS COPYRIGHT 2002 BIOSIS  
 ACCESSION NUMBER: 2000:492133 BIOSIS  
 DOCUMENT NUMBER: PREV20000492254  
 TITLE: **Gene therapy** for autoimmune disorders.  
 AUTHOR(S): Evans, C. H. (1); Ghivizzani, S. G.; Oligino, T. J.;  
 Robbins, P. D.  
 CORPORATE SOURCE: (1) Center for Molecular Orthopaedics, Harvard Medical  
 School, 221 Longwood Avenue, BL-152, Boston, MA, 02115 USA  
 SOURCE: Journal of Clinical Immunology, September, 2000 Vol. 20,  
 No. 5, pp. 334-346. print.  
 ISSN: 0271-9142.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AB Although many autoimmune disorders do not have a strong genetic basis,  
 their treatment may nevertheless be improved by **gene**  
**therapies**. Most strategies seek to transfer genes encoding  
 immunomodulatory products that will alter host immune responses in a  
 beneficial manner. Used in this fashion, genes serve as biological  
 delivery vehicles for the products they encode. By this means **gene**  
**therapy** overcomes obstacles to the targeted delivery of proteins  
 and RNA, and improves their efficacy while providing a longer duration of  
 effect, and, potentially, greater safety. Additional genetic strategies  
 include DNA vaccination and the ablation of selected tissues and cell  
 populations. There is considerable evidence from animal studies that  
**gene therapies** work: examples include the treatment of  
 experimental models of rheumatoid arthritis, **multiple**  
**sclerosis**, diabetes, and lupus. Pre-clinical success in treating  
 animal models of rheumatoid arthritis has led to the first clinical trial  
 of **gene therapy** for an autoimmune disease. In this  
 Phase I study, a cDNA encoding the interleukin-1 receptor antagonist was  
 transferred to the knuckle joints of patients with advanced rheumatoid  
 arthritis. Two additional clinical trials are in progress. It is likely  
 that **gene therapy** will provide effective new  
 treatments for a wide range of autoimmune disorders.

L6 ANSWER 9 OF 38 BIOSIS COPYRIGHT 2002 BIOSIS  
 ACCESSION NUMBER: 2000:492132 BIOSIS  
 DOCUMENT NUMBER: PREV200000492253  
 TITLE: **Gene therapy** in experimental autoimmune  
 encephalomyelitis.  
 AUTHOR(S): Mathisen, Peter M. (1); Tupy, Vincent K.  
 CORPORATE SOURCE: (1) Department of Immunology, NB30, Cleveland Clinic  
 Foundation, 9500 Euclid Avenue, Cleveland, OH, 44195 USA  
 SOURCE: Journal of Clinical Immunology, (September, 2000) Vol. 20,  
 No. 5, pp. 327-333. print.  
 ISSN: 0271-9142.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AB **Gene therapy** traditionally has been associated with  
 "gene replacement," where exogenous recombinant DNA is introduced ex vivo  
 into somatic cells that are then introduced back into the patient as a way  
 to correct an inherited genetic defect. However, several novel  
**gene therapy** strategies for treating autoimmune diseases  
 recently have emerged. Strategies involving the use of several types of  
 DNA vaccines, the application of various viral vectors, and the use of  
 diverse cellular vectors have shown promise in inhibiting  
 autoimmune-mediated inflammation and repairing tissue damaged as a result  
 of autoimmune attack. In the current review, we examine and discuss the  
 development and proposed use of emerging **gene therapy**  
 strategies for the treatment of autoimmune disease with specific emphasis

on experimental autoimmune encephalomyelitis EAE , an animal model widely used in **multiple sclerosis** MS research.

L6 ANSWER 11 OF 38 BIOSIS COPYRIGHT 2002 BIOSIS  
ACCESSION NUMBER: 2000:492097 BIOSIS  
DOCUMENT NUMBER: PREV200000492097  
TITLE: DNA vaccination in the treatment of autoimmune disease.  
AUTHOR(S): Garren, Hideki ; Steinman, Lawrence  
CORPORATE SOURCE: 1. Department of Neurology and Neurological Sciences,  
Stanford University, Stanford, CA, 94305-5316 USA  
SOURCE: Fathman, G. Garrison. Current Directions in Autoimmunity,  
(2000) Vol. 2, pp. 203-216. Current Directions in  
Autoimmunity; Biologic and gene therapy of autoimmune  
disease. print.  
Publisher: S. Karger AG CH-4009, Basel, Switzerland.  
ISSN: 1422-2132. ISBN: 3-8055-6949-1 (cloth).  
DOCUMENT TYPE: Book  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L6 ANSWER 11 OF 38 BIOSIS COPYRIGHT 2002 BIOSIS  
ACCESSION NUMBER: 2000:340581 BIOSIS  
DOCUMENT NUMBER: PREV200000340581  
TITLE: Cytokine **gene therapy** of autoimmune  
demyelination revisited using herpes simplex virus  
type-1-derived vectors.  
AUTHOR(S): Martino, G. (1); Poliani, P. L.; Marconi, P. C.; Comi, G.;  
Furlan, R.  
CORPORATE SOURCE: (1) Neuroimmunology Unit, San Raffaele Scientific  
Institute-DIBIT, Via Olgettina 58, 20132, Milano Italy  
SOURCE: Gene Therapy, (July, 2000) Vol. 7, No. 13, pp. 1087-1093.  
print.  
ISSN: 0969-7128.  
DOCUMENT TYPE: General Review  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB The peripheral delivery of drugs in patients affected by central nervous system (CNS)-confined diseases is therapeutically ineffective due to the presence of the blood-brain barrier which forms an inaccessible wall to the majority of CNS targeting molecules. When molecules with an anti-inflammatory profile have been systemically administered to patients affected by a chronic inflammatory demyelinating disease of the CNS, such as **multiple sclerosis** (MS), results have been disappointing. A successful therapeutic approach in MS should therefore consider the delivery of anti-inflammatory molecules directly into the CNS in order to inhibit blood-borne CNS-confined mononuclear cells which act as ultimate effector cells directly destroying oligodendrocytes and/or releasing myelinotoxic substances. Biological and physical vectors engineered with heterologous genes coding for immunomodulatory cytokines with an anti-inflammatory profile might represent the appropriate tool to deliver therapeutic genes into the CNS of patients with MS. So far, cytokine **gene therapy** has never been attempted in MS, but encouraging results have been obtained in the animal model of MS, experimental autoimmune encephalomyelitis (EAE), using viral vectors or plasmids engineered with cytokine genes and then injected systemically, either in the blood stream or circulating encephalitogenic T cells, or into the CNS. Here, we critically discuss the various attempts made in EAE using **gene therapy** protocols based on the delivery of immunomodulatory cytokine genes. Special emphasis is put on the use of non-replicative herpes simplex type-1 (HSV)-derived vectors engineered with the gene of the immunomodulatory cytokine interleukin -1L-4.